

**MICHIGAN ENVIRONMENTAL SCIENCE BOARD
LEAD PANEL**

**MEETING SUMMARY
MONDAY, MARCH 21, 1994
PLANT AND SOIL SCIENCE BUILDING, ROOM A-271
MICHIGAN STATE UNIVERSITY
EAST LANSING, MICHIGAN**

PANEL MEMBERS PRESENT:

Dr. Jonathan Bulkley, Chair
Dr. Raymond Demers
Dr. David Long
Dr. George Wolff

PANEL MEMBERS ABSENT:

None

BOARD STAFF PRESENT:

Mr. Keith Harrison, MESB Executive Director
Ms. Sharon Picard, Financial Officer
Mr. Alex Morese, Student Intern

I CALL TO ORDER

In the absence of the chair, Mr. Keith Harrison, Michigan Environmental Science Board (MESB) Executive Director, called the meeting of the MESB Lead Panel to order at 1:15 p.m. The chair joined the Panel at 1:40 p.m.

II EXECUTIVE DIRECTOR'S REPORT

Mr. Harrison stated that Governor John Engler in a February 25, 1994 letter to MESB Chair, Dr. Larry Fischer, requested that the MESB conduct an investigation on lead exposure in Michigan (see Attachment 1). Upon receipt of the Governor's letter, Dr. Fischer requested that Drs. Jonathan Bulkley, Raymond Demers, David Long and George Wolff serve on a panel to conduct the investigation. In addition, Dr. Fischer requested that Dr. Bulkley serve as the chair of the panel. The MESB Lead Panel was convened pursuant to Executive Order 1992-19. Mr. Harrison indicated that he had provided the MESB Lead Panel members with a copy of the Governor's February 25, 1994 letter and a packet of various articles on lead.

III GOVERNOR'S CHARGE TO THE PANEL

Mr. Harrison indicated that the Governor has requested that 3 specific concerns be addressed in the investigation. The first was to identify and rank the various routes of human lead exposure. The second was to prioritize the most effective targets of

remediation in terms of human exposure reduction, paying special attention to reducing exposure to children. The third was to identify the efficacy of the various remediation techniques for lead. Mr. Harrison indicated that the Governor had given the MESB until June 30, 1994 to complete the investigation.

Dr. Demers indicated that he felt that, with the exception of information on the latest remedial techniques, the charge given the Panel was fairly general and that most of what will be needed will be available through existing literature.

Dr. Long stated that the Governor's charges regarding lead exposure could be grouped into 3 categories; lead exposure from the environment, water pipes and paint in the home. In terms of environmental exposure and based on the research he had been doing, the amount of lead coming into the environment from anthropogenic sources peaked about 1972 and has been declining dramatically since. The amount of lead currently locked up in certain areas of the ecosystem is another environmental factor which may need to be looked into. The second and third categories, water through pipes and paint in older homes, are fairly well documented.

Dr. Wolff indicated that he agreed with Dr. Long's categorization. He continued by stating that it was important to the Panel to begin to identify the various routes of lead exposure and then to divide the Panel in terms of expertise in order to conduct an assessment of the routes.

Mr. Harrison indicated that the last charge from the Governor deals with the various remediation techniques that exist; however, it is fairly clear that at least one, the removal of lead from gasoline, has already had a tremendous impact on helping to reduce input of lead into the atmosphere. The question, therefore, would be, is the Panel going to revisit this or look more at the routes which may not have been defined as well. Dr. Wolff stated that the Panel would need to make a determination as to which routes were still important and focus on those.

Dr. Wolff asked if the Panel was going to assess whether or not the present levels of lead exposure were of concern. He asked this question because of concern that the levels set for lead exposure, at least according to some experts, may be conservative. Dr. Bulkley indicated that he did not see that that was necessarily a charge given to the Panel to investigate.

Dr. Demers stated that while he would not mind discussing the issue, it was one which could bog the Panel down. Dr. Bulkley stated that due to the June 30, 1994 deadline placed on the investigation by the Governor, it would be best not to purposefully add this new concern to the list of tasks to be completed by the Panel. Responding to a suggestion by Dr. Wolff, Dr. Bulkley indicated that the Panel could invite an expert to present this type of information in order to provide the Panel with some background.

Mr. Harrison asked if the Panel should not also look at lead exposure in terms of urban vs non-urban areas because of, for instance, the greater preponderance of such things

as older pipes in the urban homes. Dr. Long indicated that the concern about the pipes was valid, but he was not certain about the availability of good data on such things as inner city soil samples. Hopefully, the state agencies might be able to assist the Panel in this area.

Dr. Bulkley asked about 2 Michigan Department of Public Health (MDPH) papers provided to the Panel regarding lead contamination in urban areas. One indicated that the city of Detroit and the MDPH had received grants from the Center for Disease Control (CDC) supporting development of a lead poisoning prevention program. The grant will fund intervention, public education, and identification of children with elevated blood lead levels.

The second article suggested that Michigan should be applying to the federal government for grants under Title X of the 1992 Residential Lead Based Paint Hazard Reduction Act. Dr. Jim Bedford, MDPH, stated that Michigan did apply and was given a grant of approximately \$3.4 million. The money will be received only after the required training and certification legislation, which is currently delayed in the Legislature, is passed. Dr. Bulkley asked if Mr. Harrison would address this issue with the Governor's office.

Mr. Harrison asked Dr. Bedford if MDPH could provide some background on the lead related activities of the Department at the next Panel meeting. Dr. Bedford replied that someone from the Lead Unit of the Child and Adolescent Health Division could address the Panel.

Dr. Bulkley inquired whether there were any statewide data available on exposure. Dr. Bedford said there were some available by census tract. The CDC grant was being applied to 8 metropolitan areas, not only Detroit, because metropolitan areas tend to be those with the oldest housing stock and plumbing, and with the heaviest traffic.

Dr. Wolff asked whether there were any data on the prevalence of lead pipes or exposure from lead pipes. Dr. Bedford replied that the MDPH Water Supply Division might be able to help answer that. However, he said, water is a relatively minor source of lead; there is much more exposure from paint, soil and dust.

Dr. Bulkley indicated that the Panel should be conscious of the rural environment, and asked whether the Michigan Department of Agriculture (MDA) might have any data on rural exposures. Dr. Bedford replied that lead arsenic pesticides were common in the past and some farm vehicles are still allowed to use leaded gasoline, and there may be some other exposures that have not been checked out. Mr. Harrison said he would check with the MDA. Dr. Bulkley suggested that it may be worthwhile to sample farm children to see whether there is any reason for concern. Dr. Bedford said that there may be existing data that could be examined, since the MDPH encourages lead testing for all young children.

Mr. Harrison asked about the soil samples taken by the MDNR. Chris Flaga, MDNR Environmental Response Division, responded that there are soils data that have been collected around the state on a site-specific basis. She will check to see if anything had been compiled specifically for lead. Deb MacKenzie-Taylor, MDNR Hazardous Waste Division, said that there is a background soil database for lead. More random, rather than contaminated site, sampling is being done currently in both urban and rural areas.

Gary Hurlburt, MDNR Water Quality Division, said that MDNR's routine monitoring program has data on lead in water from surface waters and sediments around the state, as well as some historical data. Since heavy metals have been monitored longer than organics, there are historical trend data for metals and lead intake in the environment. He will compile a summary for the Panel and make a presentation if the Panel would like. As a start, he will send a summary of blood levels to Mr. Harrison for distribution to the Panel.

Dr. Bulkley asked about data on lead added to treated water by old lead pipes. Dr. Bedford replied that the MDPH does have a database on that.

Dr. Bulkley then asked if there are any data on families using well water. Dr. Bedford said that wells are usually checked only for bacteria and nitrates and not for heavy metals. Lead is rarely a groundwater contaminant, except in special cases. Dr. Bulkley agreed and offered to contact Barry Johnson, who has done some work in Washtenaw County and other county health departments, to confirm that. Gary Hurlburt indicated that there are Michigan-specific groundwater data available.

Dr. Long offered to check the databases of the U.S. Geological Survey and to provide some data one of his students is working on - analyzing lead in soils data taken a few years ago across the U.S. by the Geological Survey. These data will provide an overview of the Great Lakes area and Midwest region.

Dr. Demers asked whether the state health department has any data from the Detroit lead screening program. Dr. Bedford indicated that the MDPH could provide those data also.

Dr. Bulkley asked if there were other areas that should be examined. Dr. Demers stated that construction trades workers are another population that may be at risk from lead exposure. He asked for an update of the federal Occupational Safety and Health Administration (OSHA) regulations as they apply to workers and sources of lead exposure.

Dr. Long pointed out that coal burning may also be an issue. Dr. Wolff said that an existing emission inventory done by MDNR in the late 1970's and updated in 1986 may answer that. He will provide the Panel with a copy of the data.

Dr. Wolff asked whether human hair retained lead. Dr. Bedford responded that he was not familiar with any correlation between blood lead levels and hair.

Dr. Bulkley reiterated the Panel's tasks. The Panel is to identify exposure routes, rank them according to the seriousness of exposure, especially to children, then identify various remediation techniques. Mr. Harrison suggested that the work on remediation techniques come after the identification and ranking of routes. Dr. Bulkley agreed.

Dr. Long expressed concern about how the Panel's recommendations would focus specifically on Michigan. Dr. Bulkley responded that the Panel's ability to do that depends on available state agency information.

Dr. Long expressed concern about the limited data base and sparse literature on lead from municipal water systems. He stated that the limited data may not be enough for the Panel to draw any firm conclusions. Dr. Bulkley indicated that Drs. Rolf Hartung and Rolf Deiniger, University of Michigan, have been working on this issue for a period of time. He asked Mr. Harrison to contact them to see if either could make a presentation to the Panel.

Dr. Demers indicated that organizationally, the Panel could look at populations at risk by geographic and demographic profiles. In addition, there is a 20 year database for Detroit on blood levels in children which the Panel could look at. He stated that he was uncertain about the availability of similar data from other cities. Dr. Bedford indicated that there may be some other Michigan cities which have a database, but none as long as Detroit's.

Dr. Wolff stated that the Panel should also look at airborne lead concentrations from around the state and then calculate a dose by inhalation. This type of evaluation would assist the Panel in determining if this is a significant route or not.

Dr. Demers indicated that an additional area where the Panel could use some information is on the type or types of education programs which are currently being used by Michigan counties and cities to educate the public on the concerns of lead in the drinking water. Dr. Bedford indicated that the MDPH works with the counties and cities and has brochures available which provide ways to help reduce lead exposure.

Dr. Wolff indicated that another expert on lead that the Panel should contact is Dr. Jaroslav Vostal, formerly of General Motors. Dr. Demers stated that two additional individuals to be contacted would be Ralph Kaufman, Children's Hospital, who could provide information on lead screening and follow up activities, and Dr. Joel Pounds, Institute of Chemical Toxicology at Wayne State University, who could provide information on cellular concerns of lead exposure. Dr. Bulkley asked Mr. Harrison to contact these individuals to see if they would be willing to make a presentation to the Panel.

Dr. Long stated that based on the various comments from the state agency staff, considerable work on lead has been ongoing. The single missing element in all this appears to be the linking of all these data into a single document. The work to be accomplished by the Lead Panel could provide an important contribution in this area.

IV PANEL MEMBER ASSIGNMENTS

Dr. Bulkley stated that the Lead Panel is expected to complete its report by June 30, 1994. Prior to that time, however, the Panel will be facing an intensive time period to gather and review data, hold meetings, and hear presentations in order to compile sufficient data for the report. Dr. Bulkley anticipates a 2 week period before the completion date to allow time to draft the report. Panel assignments will be issued according to each member's particular expertise/interest. A section of the report will be assigned to each member and Dr. Bulkley will have the responsibility to bring the report together, with the help of Panel members.

V PUBLIC COMMENT AND QUESTIONS

Dr. Bedford suggested that another area that the Panel should look into is the possible classification of lead remediation waste disposal in a Type II landfill. Debra Mackinzie-Taylor indicated that the MDNR is currently forming a policy on lead. At present, lead, due to its toxicology, is considered a hazardous waste under both Michigan's and the federal government's hazardous waste laws. The MDNR is trying to see if lead, which comes from remediated homes, could be considered as a household hazardous waste and therefore exempt from the hazardous waste regulations. The wastes could then be disposed of into Type II landfills. The only problem with this approach is that the definition of household wastes would not apply to lead wastes coming from institutional-type facilities like schools and day-care centers. The MDPH is currently working on the development of a comprehensive lead poisoning protection bill. The MDNR is working with the MDPH on this issue.

Dr. Bulkley asked about the availability of information indicating the number of sites on the Public Act 307 list which are contaminated due to lead. Ms. Flaga responded that the information is available from the annual MDNR publication of the Public Act 307 sites. Mr. Harrison indicated that he would provide the Panel with the information.

Dr. Bedford stated that another area that the Panel could possibly look into is the impact of improper battery acid disposal. Dr. Bulkley asked Dr. Bedford how frequently such incidences occur. Dr. Bedford indicated that they are relatively rare.

Dr. Long questioned whether or not the Panel was going to look at broader ecosystem issues of lead. Mr. Harrison indicated that the charge from the Governor is fairly specific in terms of looking at the human health concerns, although there is some mention in the introductory paragraph regarding environmental concerns.

Dr. Long asked both Dr. Bedford and Ms. Flaga for their agency's interpretation of the charge given to the Panel. Dr. Bedford indicated that in terms of the MDPH, the key phase in the letter is human exposure. Ms. Flaga stated that the MDNR would agree.

Dr. Long asked if the MDNR requires clean-ups to go beyond background. Ms Flaga indicated that MDNR generally does not require that level of clean-up. Soil background for lead varies throughout the state. The MDNR uses 21 ppm as default background level for environmental clean-ups. The responsible parties have the option to determine natural background if they feel that the 21 ppm level is too low.

Dr. Long indicated that in terms of the Great Lakes region, 21 ppm is a typical pre-industrial natural concentration for lead in most areas except for the Lake Superior area where it would be expected to be somewhat higher.

Dr. Wolff indicated that it would be beneficial for the Panel to know the thought process and logic used in establishing the 21 ppm. He stated that the Panel members may get a better feel for the importance of the different routes if they knew the process used in determining how the 21 ppm contributed to overall exposure, and the evaluations of other routes used to determine relative importance.

Ms. Flaga responded that she understood that the process was strictly for determining what is typical of background levels in the soils throughout the state. However, in developing the clean-up criteria for lead, other routes of exposure were considered. The MDNR had used the U.S. Environmental Protection Agency (USEPA) lead model - the integrated updated bio-kinetics model developed through the USEPA - to help develop their soil lead clean-up levels. Currently, the MDNR is using a clean-up level of 400 ppm in soil, and that is assuming exposures through diet, drinking water and air. Ms. Flaga indicated that she has provided Mr. Harrison with a copy of a justification document that was developed along with the clean-up criteria.

VI NEXT MEETING DATES

The next meeting dates for the MESB Lead Panel were established for April 11, 1994 at 11:30 a.m., April 25, 1994 at 1:30 p.m. and May 2, 1994 at 1:00 p.m. All 3 meeting will at the Plant and Soil Science Building on the campus of Michigan State University in East Lansing.

VI ADJOURNMENT

The meeting was adjourned at 2:30 p.m.

Keith G. Harrison, M.A., R.S., Cert. Ecol.
MESB Executive Director